

$$1) \left( \frac{\sqrt{p}}{p} - \frac{\sqrt{p}}{p} \right) \times \left( \frac{\sqrt{p}}{p} - \left( -\frac{\sqrt{p}}{p} \right) \right) = \frac{p}{p} - \frac{p}{p} = -\frac{1}{p}$$

191100

9

$$\frac{1 + p \times \left( -\frac{1}{\sqrt{p}} \right)}{p \times \left( \frac{\sqrt{p}}{p} \right) + p \times \left( -\frac{\sqrt{p}}{p} \right)} = \frac{1 + 1}{p + 1} = \frac{1}{p}$$

$$2) AH = AB \times \frac{\sqrt{p}}{p} = \frac{\sqrt{p}}{p} = \frac{p \sqrt{p}}{p} = \sqrt{p} \rightarrow \sqrt{p} + HC = AC$$

$$p + HC = p \Rightarrow p - p = HC \rightarrow q = HC \rightarrow \boxed{p = HC}$$

9

$$3) q \times \frac{p}{\sqrt{p}} = \frac{1}{\sqrt{p}} = p \Rightarrow AC$$

$$\frac{1}{\sqrt{p}} \sin B = \frac{p \sqrt{p}}{p} \rightarrow \sin p$$

$$\frac{1}{\sqrt{p}} \times \frac{1}{p} = p \sqrt{p} \times \sin B \rightarrow \frac{q}{\sqrt{p}} \times \frac{1}{p \sqrt{p}} = \frac{q}{p \sqrt{p}} = \frac{p \sqrt{p}}{p \sqrt{p}} = \frac{1}{p}$$

$$\frac{p \sqrt{p}}{p} \rightarrow \frac{\sqrt{p}}{p} = \sin p \Rightarrow 1 - q^2 = p^2 - 1 = p \Rightarrow q \sqrt{p}$$

$$4) BD = AD - AB \rightarrow 100 - (10 \cdot \sqrt{p}) = 1000 \rightarrow 100 = BD$$

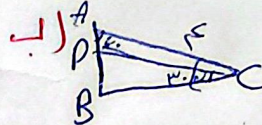
$$AD \rightarrow \frac{10 \cdot \sqrt{p}}{\sqrt{p}} = \frac{\sqrt{p}}{p} \rightarrow AD = 100$$

$$DC = CB - DB \rightarrow AC \Rightarrow \frac{10 \cdot \sqrt{p}}{\sqrt{p}} = \frac{1}{p} \rightarrow 10 \cdot \sqrt{p}$$

$$(10 \cdot \sqrt{p})^2 + BC^2 = (10 \cdot \sqrt{p})^2 \rightarrow 10000 + BC^2 = 10000 \rightarrow BC^2 = 10000 \rightarrow BC = 100$$

$$DC = 10 \cdot 10 = 100$$

9



$$\frac{AB}{AC} = \frac{1}{p} \rightarrow AC = p$$

$$p^2 - p^2 = 12 \rightarrow BC = \sqrt{12} \rightarrow BDC \rightarrow (p + (\sqrt{12}))^2 = 12 \rightarrow DC = \sqrt{12}$$

$$\sin \alpha = \frac{1}{\sqrt{12}} = \frac{\sqrt{12}}{12}$$

$$\sin \alpha \Rightarrow \frac{AB}{\sin 120} = \frac{AC}{\sin 30} \rightarrow \frac{AB}{\sqrt{3} + \sqrt{3}} = p \rightarrow \frac{AB}{AC} = \frac{AB}{\frac{AB}{\sqrt{3} + \sqrt{3}}} = \frac{AB}{\frac{AB}{\sqrt{3} + \sqrt{3}}} = \frac{\sqrt{3} + \sqrt{3}}{1} = \frac{\sqrt{3} + \sqrt{3}}{1}$$

$$\sin 120 \rightarrow \sin(90 + 30) = \sin 90 \times \cos 30 + \sin 30 \times \cos 90 = \frac{\sqrt{3}}{2} + \frac{1}{2} = \frac{\sqrt{3} + 1}{2}$$

9

$$\frac{S_{ABE}}{S_{BDC}} = \frac{\frac{1}{2} \sin B \times p \times p}{\frac{1}{2} \sin B \times p \times p} = \frac{1}{1} = \frac{p}{q} \rightarrow B = B \text{ د قاعده}$$

9



الف)  $\sqrt{r} \times \sin \theta = \sqrt{r}$

ب)  $\frac{1}{r} \sqrt{r} \sin \theta \times r \times \frac{1}{r} = \frac{\sqrt{r}}{r} = \sqrt{r}$

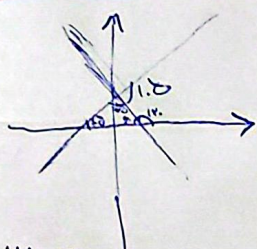
شبه  $\frac{\Delta y}{\Delta x} = \frac{r-1}{1-(-1)} = \frac{r}{2} = \frac{1}{r}$

$\tan \alpha = \frac{1}{r}$

$1 + \tan \alpha = \frac{1}{\cos \alpha}$

$\rightarrow \cos \alpha = \frac{r}{r+1}$

$\Rightarrow \cos \alpha = \frac{r}{r+1} = \frac{r}{2} = \frac{r}{2}$



$y = rx + d$

$y = rx + d$

$\rightarrow y = x + \frac{d}{r}$

$\tan \alpha = 1$

$\rightarrow \alpha = 45^\circ$

$y = mx + b$

$\rightarrow b = \frac{d}{r}$

$m = \tan 140^\circ = \frac{\sqrt{r}}{r} = -\sqrt{r}$

$\rightarrow mb = \frac{-\sqrt{r} \times d}{r} = \frac{-d\sqrt{r}}{r}$

$f\left(\frac{d\sqrt{r}}{r}\right) = \cos\left(\pi + \frac{d\sqrt{r}}{r}\right) + \sin\left(\frac{\pi}{r} - \frac{d\sqrt{r}}{r}\right) - \tan\left(\frac{\pi}{r} + \frac{d\sqrt{r}}{r}\right)$

$\left(\cos \frac{d\sqrt{r}}{r}\right) + (-\cos \frac{d\sqrt{r}}{r}) - \left(\cot + \frac{d\sqrt{r}}{r}\right) = -\left(\frac{d\sqrt{r}}{r}\right) = \sqrt{r}$

$\frac{\sin\left(\frac{r}{r} + \pi\right) + \cos\left(\frac{r}{r} - \pi\right)}{\cos(\pi + \pi) - \sin(\pi - \pi)} = \frac{+ \cos \pi + (-\sin \pi)}{-\cos \pi + \sin \pi} = -1$